

0590
07/5

#8



ENTERED

OIPE

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/023,634

DATE: 07/18/2002 P.6
TIME: 11:15:59

Input Set : A:\Cura-521.app

Output Set: N:\CRF3\07182002\J023634.raw

3 <110> APPLICANT: Shimkets, Richard A
4 Colman, Steven D
5 Spytek, Kimberly A
6 Ballinger, Robert A
7 Guo, Xiaojia
8 Tchernev, Velizar T
9 Shenoy, Suresh G
10 Li, Li
11 Ellerman, Karen
12 Zerhusen, Bryan D
13 Patturajan, Meera
14 Casman, Stacie J
15 Boldog, Ferenc
16 Gusev, Vladimir Y
17 Burgess, Catherine E
18 Edinger, Shlomit R
19 Gangolli, Esha A
20 Malyankar, Uriel M
21 Gunther, Erik
22 Smithson, Glennda
23 Millet, Isabelle
24 Gerlach, Valerie
26 <120> TITLE OF INVENTION: Proteins, Polynucleotides Encoding Them and Methods of
27 Using the Same
29 <130> FILE REFERENCE: 21402-221
31 <140> CURRENT APPLICATION NUMBER: 10/023,634
C--> 32 <141> CURRENT FILING DATE: 2002-06-28
34 <150> PRIOR APPLICATION NUMBER: 60/256,025
35 <151> PRIOR FILING DATE: 2000-12-15
37 <150> PRIOR APPLICATION NUMBER: 60/265,163
38 <151> PRIOR FILING DATE: 2001-01-30
40 <150> PRIOR APPLICATION NUMBER: 60/272,929
41 <151> PRIOR FILING DATE: 2001-03-02
43 <150> PRIOR APPLICATION NUMBER: 60/274,864
44 <151> PRIOR FILING DATE: 2001-03-09
46 <150> PRIOR APPLICATION NUMBER: 60/276,688
47 <151> PRIOR FILING DATE: 2001-03-16
49 <150> PRIOR APPLICATION NUMBER: 60/277,880
50 <151> PRIOR FILING DATE: 2001-03-22
52 <150> PRIOR APPLICATION NUMBER: 60/286,409
53 <151> PRIOR FILING DATE: 2001-04-25
55 <150> PRIOR APPLICATION NUMBER: 60/309,246
56 <151> PRIOR FILING DATE: 2001-07-31

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/023,634

DATE: 07/18/2002
TIME: 11:15:59

Input Set : A:\Cura-521.app
Output Set: N:\CRF3\07182002\J023634.raw

```

58 <150> PRIOR APPLICATION NUMBER: 60/315,600
59 <151> PRIOR FILING DATE: 2001-08-29
61 <160> NUMBER OF SEQ ID NOS: 132
63 <170> SOFTWARE: PatentIn Ver. 2.1
65 <210> SEQ ID NO: 1
66 <211> LENGTH: 1953
67 <212> TYPE: DNA
68 <213> ORGANISM: Homo sapiens
70 <400> SEQUENCE: 1
71 gtctgagtca cagagatggg caagatcgag aacaacgaga gggatgatcct caatgtcggg 60
72 ggcacccggc acgaaacctt ccgcagcacc ctcaagaccg tgcctggaac acgcctggcc 120
73 cttcttgccct cctccgagcc cccaggcgac tgcttgacca cggcgggcga caagctgcag 180
74 ccgtcgccgc ctccactgtc gccgcgcgcg agagcgcccc cgctgtcccc cgggccaggc 240
75 ggctgcttcg agggcggcgc gggcaactgc agttcccgcg gcggcagggc cagcgaccat 300
76 cccgggtggcg gccgcgagtt cttcttcgac cggcaccgcg gcgtcttcgc ctatgtgctc 360
77 aattactacc gcaccggcaa gctgcactgc cccgcagacg tgtgcgggcc gctcttcgag 420
78 gaggagctgg ccttctgggg catcgacgag accgacgtgg agccctgctg ctggatgacc 480
79 taccggcgagc accgcgacgc cgaggaggcg ctggacatct tcgagacccc cgacctcatt 540
80 ggcggcgacc ccggcgacga cgaggacctg gcggccaaga ggctgggcat cgaggacgcg 600
81 gcggggctcg ggggcccgga cggcaaatct ggccgctgga ggaggctgca gccccgcatg 660
82 tgggcccctc tcgaagacct ctactgtcc agagccgcca ggtttattgc ttttgcttct 720
83 ttattcttca tcttggtttc aattacaact ttttgctgga aaacacatga agctttcaat 780
84 attgttaaaa acaagacaga accagtcac aatggcaca gtgttggtct acagtatgaa 840
85 attgaaacgg atcctgcctt gacgtatgta gaaggagtgt gtgtgggtgt gtttactttt 900
86 gaatttttag tccgtattgt tttttacccc aataaacttg aattcatcaa aaatctcttg 960
87 aatatcattg actttgtggc catctacact ttctacttag aggtgggact cagtgggctg 1020
88 tcatccaaag ctgctaaaga tgtgcttgcc ttctcagggt tggtaagggt tgtgaggatc 1080
89 ctgagaatct tcaagctcac ccgccatttt gtaggtctga ggggtgcttg acatactctt 1140
90 cgagctagta ctaatgaatt tttgctgctg ataattttcc tggctctagg agttttgata 1200
91 tttgctacca tgatctacta tgccgagaga gtgggagctc aacctaacga cccttcagct 1260
92 agtgagcaca cacagttcaa aaacattccc attgggttct ggtgggctgt agtgaccatg 1320
93 actaccctgg gttatgggga tatgtacccc caaatgggt caggcatgct ggtgggagcc 1380
94 ctgtgtgctc tggctggagt gctgacaata gccatgccag tgctgtcat tgtcaataat 1440
95 tttggaatgt actactcctt ggcaatggca aagcagaaac ttccaaggaa aagaaagaag 1500
96 cacatccctc ctgctcctca ggcaagctca cctacttttt gcaagacaga attaaatatg 1560
97 gcctgcaata gtacacagag tgacacatgt ctgggcaaag acaatcgact tctggaacat 1620
98 aacagatcag tgttatcagg tgacgacagt acaggaagtg agccgccact atcccccca 1680
99 gaaaggctcc ccatcagacg ctctagtacc agagacaaaa acagaagagg ggaacatgt 1740
100 ttctactga cgacaggtga ttacacgtgt gcttctgatg gagggatcag gaaagggtat 1800
101 gaaaaatccc gaagcttaaa caacatagcg ggcttggcag gcaatgctct gaggtctctt 1860
102 ccagtaacat caccctacaa ctctccttgt cctctgaggc gctctcgatc tcccatccca 1920
103 tctatcttgt aaaccaaaaa accaaactgc atc 1953
106 <210> SEQ ID NO: 2
107 <211> LENGTH: 638
108 <212> TYPE: PRT
109 <213> ORGANISM: Homo sapiens
111 <400> SEQUENCE: 2
112 Met Gly Lys Ile Glu Asn Asn Glu Arg Val Ile Leu Asn Val Gly Gly
113 1 5 10 15

```

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/10/023,634

DATE: 07/18/2002
 TIME: 11:15:59

Input Set : A:\Cura-521.app
 Output Set: N:\CRF3\07182002\J023634.raw

```

115 Thr Arg His Glu Thr Tyr Arg Ser Thr Leu Lys Thr Leu Pro Gly Thr
116                20                25                30
118 Arg Leu Ala Leu Leu Ala Ser Ser Glu Pro Pro Gly Asp Cys Leu Thr
119                35                40                45
121 Thr Ala Gly Asp Lys Leu Gln Pro Ser Pro Pro Pro Leu Ser Pro Pro
122                50                55                60
124 Pro Arg Ala Pro Pro Leu Ser Pro Gly Pro Gly Gly Cys Phe Glu Gly
125        65                70                75                80
127 Gly Ala Gly Asn Cys Ser Ser Arg Gly Gly Arg Ala Ser Asp His Pro
128                85                90                95
130 Gly Gly Gly Arg Glu Phe Phe Phe Asp Arg His Pro Gly Val Phe Ala
131                100                105                110
133 Tyr Val Leu Asn Tyr Tyr Arg Thr Gly Lys Leu His Cys Pro Ala Asp
134                115                120                125
136 Val Cys Gly Pro Leu Phe Glu Glu Glu Leu Ala Phe Trp Gly Ile Asp
137        130                135                140
139 Glu Thr Asp Val Glu Pro Cys Cys Trp Met Thr Tyr Arg Gln His Arg
140 145                150                155                160
142 Asp Ala Glu Glu Ala Leu Asp Ile Phe Glu Thr Pro Asp Leu Ile Gly
143                165                170                175
145 Gly Asp Pro Gly Asp Asp Glu Asp Leu Ala Ala Lys Arg Leu Gly Ile
146                180                185                190
148 Glu Asp Ala Ala Gly Leu Gly Gly Pro Asp Gly Lys Ser Gly Arg Trp
149        195                200                205
151 Arg Arg Leu Gln Pro Arg Met Trp Ala Leu Phe Glu Asp Pro Tyr Ser
152        210                215                220
154 Ser Arg Ala Ala Arg Phe Ile Ala Phe Ala Ser Leu Phe Phe Ile Leu
155 225                230                235                240
157 Val Ser Ile Thr Thr Phe Cys Leu Glu Thr His Glu Ala Phe Asn Ile
158                245                250                255
160 Val Lys Asn Lys Thr Glu Pro Val Ile Asn Gly Thr Ser Val Val Leu
161                260                265                270
163 Gln Tyr Glu Ile Glu Thr Asp Pro Ala Leu Thr Tyr Val Glu Gly Val
164                275                280                285
166 Cys Val Val Trp Phe Thr Phe Glu Phe Leu Val Arg Ile Val Phe Ser
167        290                295                300
169 Pro Asn Lys Leu Glu Phe Ile Lys Asn Leu Leu Asn Ile Ile Asp Phe
170 305                310                315                320
172 Val Ala Ile Leu Pro Phe Tyr Leu Glu Val Gly Leu Ser Gly Leu Ser
173                325                330                335
175 Ser Lys Ala Ala Lys Asp Val Leu Gly Phe Leu Arg Val Val Arg Phe
176                340                345                350
178 Val Arg Ile Leu Arg Ile Phe Lys Leu Thr Arg His Phe Val Gly Leu
179        355                360                365
181 Arg Val Leu Gly His Thr Leu Arg Ala Ser Thr Asn Glu Phe Leu Leu
182        370                375                380
184 Leu Ile Ile Phe Leu Ala Leu Gly Val Leu Ile Phe Ala Thr Met Ile
185 385                390                395                400
187 Tyr Tyr Ala Glu Arg Val Gly Ala Gln Pro Asn Asp Pro Ser Ala Ser

```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/023,634

DATE: 07/18/2002
TIME: 11:15:59

Input Set : A:\Cura-521.app
Output Set: N:\CRF3\07182002\J023634.raw

```

188                               405                               410                               415
190 Glu His Thr Gln Phe Lys Asn Ile Pro Ile Gly Phe Trp Trp Ala Val
191                               420                               425                               430
193 Val Thr Met Thr Thr Leu Gly Tyr Gly Asp Met Tyr Pro Gln Thr Trp
194                               435                               440                               445
196 Ser Gly Met Leu Val Gly Ala Leu Cys Ala Leu Ala Gly Val Leu Thr
197                               450                               455                               460
199 Ile Ala Met Pro Val Pro Val Ile Val Asn Asn Phe Gly Met Tyr Tyr
200 465                               470                               475                               480
202 Ser Leu Ala Met Ala Lys Gln Lys Leu Pro Arg Lys Arg Lys Lys His
203                               485                               490                               495
205 Ile Pro Pro Ala Pro Gln Ala Ser Ser Pro Thr Phe Cys Lys Thr Glu
206                               500                               505                               510
208 Leu Asn Met Ala Cys Asn Ser Thr Gln Ser Asp Thr Cys Leu Gly Lys
209                               515                               520                               525
211 Asp Asn Arg Leu Leu Glu His Asn Arg Ser Val Leu Ser Gly Asp Asp
212                               530                               535                               540
214 Ser Thr Gly Ser Glu Pro Pro Leu Ser Pro Pro Glu Arg Leu Pro Ile
215 545                               550                               555                               560
217 Arg Arg Ser Ser Thr Arg Asp Lys Asn Arg Arg Gly Glu Thr Cys Phe
218                               565                               570                               575
220 Leu Leu Thr Thr Gly Asp Tyr Thr Cys Ala Ser Asp Gly Gly Ile Arg
221                               580                               585                               590
223 Lys Gly Tyr Glu Lys Ser Arg Ser Leu Asn Asn Ile Ala Gly Leu Ala
224                               595                               600                               605
226 Gly Asn Ala Leu Arg Leu Ser Pro Val Thr Ser Pro Tyr Asn Ser Pro
227                               610                               615                               620
229 Cys Pro Leu Arg Arg Ser Arg Ser Pro Ile Pro Ser Ile Leu
230 625                               630                               635
233 <210> SEQ ID NO: 3
234 <211> LENGTH: 1227
235 <212> TYPE: DNA
236 <213> ORGANISM: Homo sapiens
238 <400> SEQUENCE: 3
239 ctggcagctg cctttgcaga ctctaactcc agcagcatga atgtgtcctt tgctcacctc 60
240 cactttgccg gagggtagct gccctctgat tcccaggact ggagaacat catcccggt 120
241 ctcttggttg ctgtctgcct ggtgggcttc gtgggaaacc tgtgtgtgat tggcatctc 180
242 cttcacaatg cttggaaagg aaagccatcc atgatccact ccctgattct gaatctcagc 240
243 ctggctgatc tctccctcct gctgttttct gcacatatcc gagctacggc gtactccaaa 300
244 agtgtttggg atctaggctg gtttgtctgc aagtccctctg actggtttat ccacacatgc 360
245 atggcagcca agagcctgac aatcgttgtg gtggccaaag tatgcttcat gtatgcaagt 420
246 gaccagcca agcaagtgag tatccacaac tacaccatct ggtcagtgtc ggtggccatc 480
247 tggactgttg ctagcctgtt acccctgccg gaatggttct ttagcaccat caggcatcat 540
248 gaaggtgttg aaatgtgcct cgtggatgta ccagctgttg ctgaagagtt tatgtcgatg 600
249 tttggtaagc tctaccact cctggcattt ggccttccat tattttttgc cagcttttat 660
250 ttctggagag cttatgacca atgtaaaaaa cgaggaacta agactcaaaa tcttagaaac 720
251 cagatacgct caaagcaagt cacagtatg ctgctgagca ttgccatcat ctctgctctc 780
252 ttgtggctcc ccgaatgggt agcttggttg tgggtatggc atctgaaggc tgcaggcccg 840
253 gccccaccac aaggtttcat agccctgtct caagtcttga tgttttccat ctcttcagca 900

```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/023,634

DATE: 07/18/2002
TIME: 11:15:59

Input Set : A:\Cura-521.app
Output Set: N:\CRF3\07182002\J023634.raw

```

254 aatcctctca tttttcttgt gatgtcggaa gagttcaggg aaggcttgaa aggtgtatgg 960
255 aaatggatga taacaaaaaa acctccaact gtctcagagt ctcaggaaac accagctggc 1020
256 aactcagagg gtcttctga caaggttcca tctccagaat ccccagcatc cataccagaa 1080
257 aaagagaaac ccagctctcc ctctctggc aaagggaaaa ctgagaaggc agagattccc 1140
258 atccttctg acgtagagca gttttggcat gagagggaca cagtccttc tgtacaggac 1200
259 aatgacccta tccccctggg aacataa 1227
262 <210> SEQ ID NO: 4
263 <211> LENGTH: 396
264 <212> TYPE: PRT
265 <213> ORGANISM: Homo sapiens
267 <400> SEQUENCE: 4
268 Met Asn Val Ser Phe Ala His Leu His Phe Ala Gly Gly Tyr Leu Pro
269 1 5 10 15
271 Ser Asp Ser Gln Asp Trp Arg Thr Ile Ile Pro Ala Leu Leu Val Ala
272 20 25 30
274 Val Cys Leu Val Gly Phe Val Gly Asn Leu Cys Val Ile Gly Ile Leu
275 35 40 45
277 Leu His Asn Ala Trp Lys Gly Lys Pro Ser Met Ile His Ser Leu Ile
278 50 55 60
280 Leu Asn Leu Ser Leu Ala Asp Leu Ser Leu Leu Leu Phe Ser Ala Pro
281 65 70 75 80
283 Ile Arg Ala Thr Ala Tyr Ser Lys Ser Val Trp Asp Leu Gly Trp Phe
284 85 90 95
286 Val Cys Lys Ser Ser Asp Trp Phe Ile His Thr Cys Met Ala Ala Lys
287 100 105 110
289 Ser Leu Thr Ile Val Val Val Ala Lys Val Cys Phe Met Tyr Ala Ser
290 115 120 125
292 Asp Pro Ala Lys Gln Val Ser Ile His Asn Tyr Thr Ile Trp Ser Val
293 130 135 140
295 Leu Val Ala Ile Trp Thr Val Ala Ser Leu Leu Pro Leu Pro Glu Trp
296 145 150 155 160
298 Phe Phe Ser Thr Ile Arg His His Glu Gly Val Glu Met Cys Leu Val
299 165 170 175
301 Asp Val Pro Ala Val Ala Glu Glu Phe Met Ser Met Phe Gly Lys Leu
302 180 185 190
304 Tyr Pro Leu Leu Ala Phe Gly Leu Pro Leu Phe Phe Ala Ser Phe Tyr
305 195 200 205
307 Phe Trp Arg Ala Tyr Asp Gln Cys Lys Lys Arg Gly Thr Lys Thr Gln
308 210 215 220
310 Asn Leu Arg Asn Gln Ile Arg Ser Lys Gln Val Thr Val Met Leu Leu
311 225 230 235 240
313 Ser Ile Ala Ile Ile Ser Ala Leu Leu Trp Leu Pro Glu Trp Val Ala
314 245 250 255
316 Trp Leu Trp Val Trp His Leu Lys Ala Ala Gly Pro Ala Pro Pro Gln
317 260 265 270
319 Gly Phe Ile Ala Leu Ser Gln Val Leu Met Phe Ser Ile Ser Ser Ala
320 275 280 285
322 Asn Pro Leu Ile Phe Leu Val Met Ser Glu Glu Phe Arg Glu Gly Leu
323 290 295 300

```

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/10/023,634

DATE: 07/18/2002
TIME: 11:16:00

Input Set : A:\Cura-521.app
Output Set: N:\CRF3\07182002\J023634.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:54; Xaa Pos. 325,360
Seq#:86; Xaa Pos. 204
Seq#:93; Xaa Pos. 3003,3041,3367

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/023,634

DATE: 07/18/2002

TIME: 11:16:00

Input Set : A:\Cura-521.app

Output Set: N:\CRF3\07182002\J023634.raw

L:32 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:3919 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:54 after pos.:320
L:3925 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:54 after pos.:352
L:7074 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:86 after pos.:192
L:8848 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:93 after pos.:2992
L:8857 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:93 after pos.:3040
L:8917 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:93 after pos.:3360